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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/890,408	09/26/2001	Ludo Adriaensen	016782-0235	1783

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EXAMINER

SALVATORE, LYNDIA

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 06/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/890,408

Applicant(s)

ADRIAENSEN ET AL.

Examiner

Lynda M Salvatore

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Applicant's amendment and accompanying remarks filed 02/25/04 have been fully considered and entered. Claims 1-15 and 17-19 have been amended as requested. Applicant's arguments with respect to the rejection of claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-2,4-5, 7-15, and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adriaensen et al., WO 98/55682 in view of Bailey et al., GB 2153256 A.

The published PCT application to Adriaensen et al., teaches a fabric canvass reinforcement comprising at least one warp and weft formed by a strip which comprises a matrix of thermoplastic material which is adherable to the plastic coating of the canvass (Abstract and Page 3, 5-6). The strips are made from two or more elongated metal members with an average thickness ranging from .50 mm to 3.0mm and are preferably located parallel in the plane of the strip (Page 3, 6-16). Suitable metal materials include steel, copper or a low carbon steel wire with a carbon content below .4% (Page 5, 6-15). The steel wire may be flat or round (Page 5, 16). Adriaensen et al., specifically teaches that low carbon steel wires have a much smoother surface and as a result do not adhere well to the thermoplastic matrix material (Page 5, 17-21). Adriaensen et al., does teach that copper or steel wires are less flexible than cords, however, Adriaensen et al., further discloses that said wires are less expensive. The breaking load of the

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metal members in one single strip is preferably higher than 2000 Newton (Page 7, 10-11). The polyvinylchloride compound matrix material is extruded on the metal strip (Page 9, 28-Page 6, 2).

Adriaensen et al., fails to teach coating the metal member with a primer layer, however, primer coating metals prior to the application of any thermoplastic material is commonly known in the art. For example, the UK patent application issued to Bailey et al., teaches a wire substrate comprising an outer plastic layer (Abstract). Bailey et al., specifically teaches applying a primer coating to the wire substrate prior to bonding the outer synthetic plastic layer to increase the bond strength between the wire substrate and outer synthetic material (Column 2, 66-70). Suitable primer materials include the hot melt adhesive of ethylene vinylacetate (Column 4, 85-90). Suitable wire substrates include high carbon or stainless steel wire (Column 3, 35-45). It should be noted that although Bailey et al., does not specifically teach coating metal substrates for use in canvass reinforcement, it is the position of the Examiner that Bailey et al., is properly relied upon to evidence primer coating metal for the purpose of increasing the bond strength between the metal substrate and thermoplastic material. Furthermore, based on the explicit teachings of Adriaensen et al., which disclose that the less expensive wires do not adhere well to the thermoplastic matrix material, one of ordinary skill in the art would be motivated to look to the prior art to find ways to increase the bond strength between substrate and matrix material to produce a more cost effective reinforcement canvass.

Therefore, motivated by the desire to produce a less expensive reinforcement canvass it would have been obvious to one having ordinary skill in the art at the time invention was made

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to primer coat the metal wires taught by Adriaensen et al., with the hot melt adhesive taught by Bailey et al.

With regard to claim 12, Adriaensen et al., does not specifically teach the rounded I-profile, however, it is the position of the Examiner that absent persuasive evidence that the particular rounded I-profile is significant to the claimed invention, a change in shape is a matter of choice which a person of ordinary skill in the art would easily recognize. *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966)

With regard to claim 13, Adriaensen et al., teaches steel, copper or a low carbon steel wire with carbon content below .4%, but fails to teach a content of at least .4%. However, it is the position of the Examiner that it would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the amount of carbon content as a function of desired ductility. It has been held that discovering the optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Adriaensen et al., WO 98/55682 in view of Bailey et al., GB 2153256 A as applied to claim 2 and further in view of Daisel LTD, JP 52126465A .

The combination of prior fails to teach primer coating the metal member with the materials set forth, however, the Japanese patent abstract to Daisel LTD teaches coating a metal with a primer containing organic solvent, curing the primer, and then extruding the thermoplastic resin. Suitable primer materials include polyvinylchloride (PVC), epoxy-phenol or polybutadiene dissolved in organic solvent (Abstract).

Therefore, motivated by the desire to facilitate the adhesion between the metal member and the thermoplastic matrix material it would have been obvious to one having ordinary skill in the art at the time the invention was made to coat the metal members of Adriaensen et al and Bailey et al., with the epoxy-phenol primer material taught by Daisel LTD.

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Adriaensen et al., WO 98/55682 in view of Bailey et al., GB 2153256 A as applied to claim 1, and further in view of Zeng et al., US 5,807,430.

The combination of prior art fails to teach primer coating the metal member with a bifunctional silane compound, however, the patent issued to Zeng et al., teaches treating metal surfaces prior to bonding with other materials such as rubber, polymers, sealants or coatings for the purpose of enhancing the strength of the bond and to provide prolong useful life in corrosive environments (Column 2, 46-50). Zeng et al., specifically teaches treating the metal surface with a compound comprising organoalkoxysilane having silane coupling functional groups (Column 2, 54-60).

Therefore, motivated by the desire to facilitate the adhesion between the metal member and the thermoplastic matrix material it would have been obvious to one having ordinary skill in the art at the time the invention was made to coat the metal members of Adriaensen et al and Bailey et al., with the organoalkoxysilane compound taught by Zeng et al.

6. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Adriaensen et al., WO 98/55682 in view of Bailey et al., GB 2153256 A as applied to claim 1 above and further in view of Carey, II et al., US 5,489,490.

The combination of prior art fails to teach to teach coating the steel or low carbon steel materials with a zinc or with a zinc alloy layer, however, the patent issued to Carey, II et al., specifically teaches that a tin-zinc coating when applied to stainless steel or low carbon steel materials, imparts highly corrosion resistant properties (Column 4, 56-61).

Therefore, motivated by the desire to provide a fabric canvass reinforcement, which is highly resistant to corrosion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the coated the metal members of Adriaensen et al and Bailey et al., ith a layer of the tin-zinc coating taught by Carey, II et al.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynda M Salvatore whose telephone number is 571-272-1482. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1482. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

May 23, 2004

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